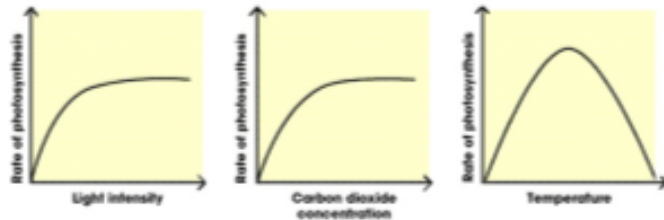


Photosynthesis

carbon dioxide + water → glucose + oxygen

Animals need to eat food to get their energy. But green plants and algae do not. Instead they make their own food in a process called **photosynthesis**. Almost all life on Earth depends upon this process. Photosynthesis is also important in maintaining the levels of oxygen and carbon dioxide in the atmosphere.

Photosynthesis takes place inside plant cells in small objects called **chloroplasts**. Chloroplasts contain a green substance called **chlorophyll**. This absorbs the light energy needed to make photosynthesis happen. Plants and algae can only carry out photosynthesis in the light.



Three factors can limit the speed of **photosynthesis**: light intensity, carbon dioxide concentration and temperature. Without enough light, a plant cannot photosynthesize very quickly, even if there is plenty of water and carbon dioxide.

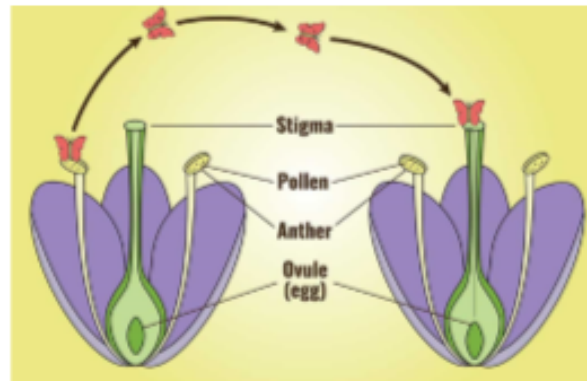
Food chains

The table describes some common terms used to describe living things in their environment:

Term	Description
Environment	All the conditions that surround a living organism
Habitat	The place where an organism lives
Population	All the members of a single species that live in a habitat
Community	All the populations of different organisms that live together in a habitat
Ecosystem	A community and the habitat in which organisms live

A **food chain** shows the different species of an organism in an **ecosystem**, and what eats what.

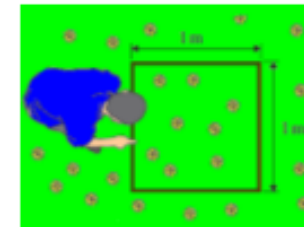
Pollination is the process by which pollen is transferred to the female reproductive organs of a plant, thereby enabling fertilization to take place.



Ecology— The branch of biology that deals with the relations of organisms to one another and to their physical surroundings.



Line transect used to sample a population and look for patterns/distribution.

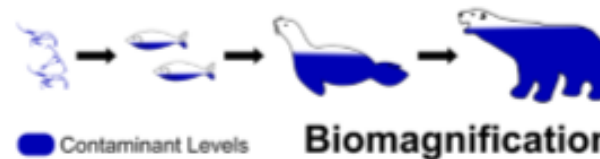
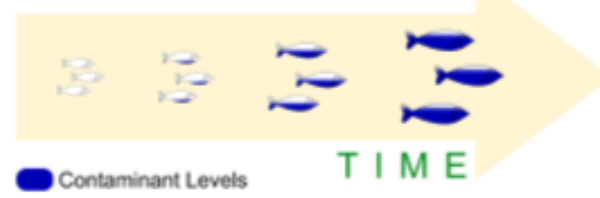


Random sampling used to sample a population and look for patterns/distribution. Maths and analysis needed in both cases to form conclusion.

ENVIRONMENT

YEAR 8

Bioaccumulation



Physical factors

The physical factors that may affect organisms include:

- Temperature
- Amount of light
- Availability of water
- Availability of nutrients
- Availability of oxygen and carbon dioxide.

Factors that affect populations

- Sunlight and soil nutrients (plants mainly)
- Rainfall/water availability
- Prey (food)
- Competitors
- Predators
- Disease